



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- ☒ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- ☐ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE August 3, 2000	APPLICATION NUMBER S2-29928	PERMIT NUMBER	CERTIFICATE NUMBER
NAME Susan E Trumm			
ADDRESS (STREET) 1446 Summit Lake Shore Rd NW	(CITY) Olympia	(STATE) Washington	(ZIP CODE) 98502

PUBLIC WATERS TO BE APPROPRIATED

SOURCE Summit Lake		
TRIBUTARY OF (IF SURFACE WATERS) Kennedy Creek		
MAXIMUM CUBIC FEET PER SECOND 0.02	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR 0.34
QUANTITY, TYPE OF USE, PERIOD OF USE 0.34 Acre-feet per year	Single domestic supply (In-house use only)	Year-round, as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL 1100 feet South and 2050 feet West of the Northeast corner of Section 8.					
LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) NW¼ NE¼	SECTION 8	TOWNSHIP N. 18	RANGE, (E. OR W.) W.M. 3W	W.R.I.A. 14	COUNTY Thurston

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Summit Lake Lot 71, B.P. Northerly ½ of even width, Thurston County, Washington.

DESCRIPTION OF PROPOSED WORKS

Intake from lake; low power pump; 50-gal storage tank.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Started	January 1, 2006	July 1, 2006

REPORT

REPORT:

Recommend issuance of a permit for Application S2-29928 for in-house use only, based on the following report.

SUMMARY:

An investigation has been conducted in response to Surface Water Application No. S2-29928 along with 41 other applications in the Summit Lake Basin of Thurston County. This investigation was completed under the Department of Ecology (Ecology) Administrative Cost Reimbursement Program (RCW 43.21A.690 and RCW 90.03.265). The examination process was overseen by Don Davidson, Water Resources, Southwest Region, Department of Ecology (Ecology). The consultant firm facilitating the review of this application was Robinson, Noble & Saltbush, Inc. All procedural issues that arose during the review of this application were directed to Ecology staff for clarification and direction.

It is recommended that a permit be issued to allow in-house use only of the water resource, subject to all the restrictions, conditions, and provisions contained in this report and applicable by law and administrative rule. This report documents the site inspection, water rights research, basis for the decision, and special conditions proposed for the permit.

BACKGROUND:

On August 3, 2000, Marjorie Kaufman filed an application in her name for a permit to appropriate public surface waters. The application was accepted and assigned number S2-29928. Allan and Susan Trumm purchased the property and the application was reassigned. Allan Trumm passed away since the reassignment. A legal notice was made for 40 applications, including the subject application, in Sections 7 and 8, Township 18 N., Range 3 W.W.M. in the *The Olympian* on May 13 and 20, 2004. No protests were received during the 30-day protest period for this notice. A third notice was made for 41 applications, including the subject application, within Sections 7, 8, 17, and 18, Township 18 N., Range 3 W.W.M. in the *The Olympian* June 29 and July 6, 2004. No protests were received as a result of this notice.

The Washington Department of Fish and Wildlife (WDFW) commented on all pending applications for surface water permits from Summit Lake, Kennedy Creek, and its tributaries in a letter dated January 10, 2005. With this letter WDFW recognized that Summit Lake contributes a significant part of Kennedy Creek flow necessary for chum, coho, steelhead, and cutthroat. They further recognized that Summit Lake supports a variety of resident fish, including trout and kokanee (land-locked sockeye salmon). They stated that Kennedy Creek low flows in the summer and fall already limit fish production. The WDFW believes further reductions will be detrimental to the production of fish and the cumulative impact of numerous small diversions from Summit Lake will reduce flow in Kennedy Creek. In light of Chapter 173-514 WAC, which closes Kennedy Creek to withdrawals from May to November, but contains an exemption for single domestic diversions where no other water sources exist, the WDFW does not object to new permits for in-house single domestic use. They recommend Hydraulic Project Approvals, including screening for fish, for each proposed appropriation.

INVESTIGATION:

Investigations made involving the proposed appropriation included a review of Department of Ecology water rights and claims in the Kennedy Creek basin, a site visit to Summit Lake, a review of Chapter 173-514 WAC, examination and analysis of well logs available for the general area surrounding Summit Lake, a review of available flow data for Kennedy Creek from the United States Geological Survey, a review of water quality data provided by Thurston County Environmental Health, examinations of property information on the Thurston County assessors website, discussions with a representative of the Department of Fish and Wildlife, and an interview with the applicant. The site visit to the lake included a site inspection of the property related to this proposed appropriation. The point of diversion is at the community boat launch existing on Lots 147 and 148. The owner of these lots is listed by the Thurston County Assessor as the Summit Lake Community Park. The place of use is approximately 160 feet east-northeast of the northeast corner of the parcel containing the point of diversion. Summit Lake Shore Road runs between the place of use and point of diversion. The Applicant stated that the water system pump is not working and the water lines are not currently connected. She also stated that she is uncertain but believes the intake is screened. The intake was not examined during the site visit. However, conditions observed do indicate it is feasible for a water system to be installed as described on the application.

Location

The diversion site is located on the northeastern shore of Summit Lake. Summit Lake is approximately nine miles west of Olympia in Thurston County. The lakeshore is generally densely developed with single-family residences and vacation cabins. Most of the western shoreline belongs to a Boy Scout camp and is relatively undeveloped. The level of development decreases rapidly away from the lakeshore such that the hills surrounding the lake are mostly forested with light development.

Summit Lake is located in a steep, forested valley. The valley was formed by erosion into Tertiary basalt (Noble and Wallace, 1966), and the lake is caused by natural damming of the valley by fluvial and glaciofluvial terrace deposits (Bortleson and others, 1974). These terrace deposits occur at the western end of the lake.

The lake's outlet is at the northern end of the west shore of the lake and is controlled by flash boards within a small dam. The dam is owned and maintained by the Department of Fish and Wildlife, was constructed of earthfill in 1955, has a crest length of 90 feet, and is three feet high. According to WDFW, screens placed in the dam's outfall were installed to keep planted fish in the lake. These screens have failed and the WDFW is currently designing a self-cleaning drum screen to keep planted fish from escaping downstream. The installation of this new screen is part of a plan by the WDFW to use the lake as a Kokanee broodstock source. The outlet empties into Kennedy Creek.

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Inflow to the lake is from small intermittent and ephemeral streams resultant from seeps, springs and runoff in the surrounding hills. According to information on Ecology's lake water quality website, the lake has a drainage area of 2.82 square miles, a surface area of approximately 530 acres, a volume of approximately 28,090 acre-feet, and is at an elevation of approximately 500 feet above mean sea level. The U.S.G.S. topographic map places the lake elevation at approximately 460 feet.

Project Description

The water system includes an intake line running from the parcel containing the community boat launch, running under Summit Lake Shore Road, to the place of use. The system also utilizes a low power pump and a 50-gallon storage tank. However, the pump is currently not working. The diversion intake is located on property owned by the Summit Lake Community Park within Lots 147 and 148. The water system will service a home.

Other Appurtenant Water Rights

A review of water rights records found no other existing water right permits or certificates for the intended place of use.

Water Availability

Summit Lake

Summit Lake has a volume of approximately 28,090 acre-feet. According to the Kennedy-Goldsborough Watershed (WRIA 14) Phase II – Level 1 Assessment, the upper Kennedy creek watershed, which contains Summit Lake, receives an annual average precipitation of approximately 74 inches. Consequently, the Summit Lake basin, with an area of approximately 2.82 square miles, receives an annual average precipitation of approximately 11,130 acre-feet.

The Phase II – Level 1 Assessment estimates the average evapotranspiration in the upper Kennedy watershed at 29 percent of the precipitation, the average runoff at 62 percent, and the average ground water recharge at 9 percent. Because Summit Lake itself takes up a significant portion of the basin (approximately 30 percent), the average evapotranspiration percentage and the average ground water recharge percentage in the Summit Lake basin are lower than the averages for the watershed. Consequently, the runoff percentage in the basin is higher. Assuming all precipitation hitting the lake goes directly to runoff, the runoff percentage is estimated at 73 percent. Using 73 percent and assuming all the runoff in the basin enters the lake, the lake receives an average annual inflow of approximately 8,125 acre-feet.

Groundwater Availability

Water Well Reports from approximately 45 wells in the Summit Lake area were reviewed. Wells drilled north, east, or south of the lake were completed in basalt bedrock and typically were greater than 100 feet deep. Yields varied, but were generally poor. Several dry wells were noted; the median yield was one gallon per minute. This median rate is unrealistically high. Most of the wells were tested by drillers using air test techniques for periods of approximately one hour. Undoubtedly, much of the water produced came from well-bore storage and actual sustainable yields were less than the yields reported on the Water Well Reports. Wells drilled west of the lake were typically finished in unconsolidated sediments, were generally shallow, and had yields much higher than the wells completed in the basalt.

Static water levels reported on well logs for the rock wells completed near the lake ranged from depths of up 288 feet, with a median of 55 feet (from a population of 14 wells). The well logs reviewed for the two rock wells west of, and more distant from, the lake showed considerably deeper static water levels – 129 and 580 feet. Reported static water levels in the unconsolidated wells range from 4 feet above ground to a depth of 51 feet, with a median of 10 feet (from a population of 9 wells). This data suggests that the water levels in most rock wells near the lake are influenced by the lake, while those at distance are not. Water levels in unconsolidated wells west of the lake are also influenced by the lake, with the lake forming a recharge source for the unconsolidated aquifer. Water levels in the unconsolidated wells indicate a groundwater flow from the lake westward to Kennedy Creek.

Public Water Systems

The Washington State Department of Health reports that the only Group A water system in the Summit Lake area is Transient Non-Community system belonging to the Boy Scout camp. Three Group B systems exist in the area, one in the southern shoreline area belonging to the Turkey Road Water System, and two southwest of the lake belonging to the Summit Lake Community Church and the Summit Lake Community Club. The Turkey Road Water System currently supplies twelve homes. The place of use for the proposed appropriation is not available for hookup to any of these water systems. Discussions with the City of Olympia indicate that the City does not currently have plans to extend their water system to the Summit Lake area as the lake is outside the City's Urban Growth Area (UGA).

Instream Flows

Under Chapter 173-514 Washington Administrative Code (WAC), minimum flows have been established for Kennedy Creek, to which Summit Lake is tributary. Kennedy Creek is closed to all consumptive appropriations from May 1 through November 15 and is subject to minimum flows throughout the rest of the year. Minimum instream flows range from 7 cfs (from August 1 to October 14) to 60 cfs (from November 15 to April 14).

The control station listed in the WAC for Kennedy Creek is located at river mile 0.06. No stream flow data was found for this location. The U.S.G.S. formerly maintained a gauging station on Kennedy Creek several miles upstream from the mouth near Kennedy Falls. Daily flow records are available for this station from February 2, 1960 until September 30, 1971. Over the period of record, low monthly mean flows typically occur in August or September. Low monthly mean flows over the period of record have ranged from 2.35 cfs to 6.76 cfs. Over the period of record, the minimum daily low flow observed was 1.6 cfs.

Single domestic use is exempt from the minimum flow provisions established in Chapter 173-514 WAC. However, WAC 173-514-060 specifies that if cumulative impacts of numerous single domestic diversions would significantly affect the quantity of water available for instream uses, then only single domestic in-house use shall be exempt if no alternative source is available.

Water Quality

According to the Thurston County Water Resources Monitoring Report 2002-2003 Water Year, published in August 2004 by Thurston County Environmental Health and the Thurston County Storm and Surface Water Program, the general water quality of Kennedy Creek is good. In the 2003 water year, the creek once failed Part II of the fecal coliform standard, had one temperature standard violation, had one

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pH violation, and two dissolved oxygen standard violations. The creek has been monitored by the County since 1985 and has consistently had excellent water quality, though data since water year 2001 there has been a slight upward trend in fecal coliform levels.

The report indicates Summit Lake generally has excellent water quality. The lake has low levels of nutrients and chlorophyll *a*, and has high visibility. The Carlson trophic state index (TSI) for the lake was measured at 28, 31, and 32 in 2003. This indicates Summit Lake is an oligotrophic water body, or a low productivity lake low in nutrients and algae growth. Though the County considers the water quality of the lake as excellent, a public health advisory was issued in 1987 that advises against the consumption of untreated lake water.

The lake is at some risk from failing on-site septic systems. Steep slopes, shallow soils, and generally small lot sizes make siting and functioning of on-site sewage systems around the lake difficult. Many lakeshore residents cannot site drainfields on their small lakefront lots and are required to locate drainfields at alternative sites uphill from the shore. A 1992-1997 study of 330 on-site systems around the lake found 58 failing systems, a total of 18%. However, nearly all these systems have since been repaired.

Because of the bedrock surrounding most the lake (at the surface, or very near the surface), failing on-site sewage systems have the potential to directly contaminate the lake with bacteria and nutrients. Water from failed systems, in many cases, will flow downhill on the bedrock surface and into the lake. Functioning systems have less potential to contaminate the lake, though subsurface flow of nutrient-rich water to the lake is possible depending on drainfield location. Drainfields located in areas with thicker soils that extend to the lakeshore have the potential for nutrient-rich water to drain on the soil-bedrock interface into the lake. However, such areas are less common around the lakeshore than areas with thin to no soil above the bedrock. In properly functioning drainfields in these areas, effluent should enter the bedrock groundwater system, where it is less likely to contaminate the lake. Records from wells around the lake generally indicated that flow is out of the lake and into the bedrock rather than from the bedrock to the lake.

Existing Rights

The following records of surface water use on Summit Lake, downstream unnamed streams, and downstream on Kennedy Creek are on file with the Department of Ecology. These water rights and claims are located in Township 18 N., Range 3 W.W.M, Sections 5-8 and 17-18; Township 18 N., Range 4 W.W.M, Sections 1-3 and 10-14; Township 19 N., Range 3 W.W.M, Sections 31-32; and Township 19 N., Range 4 W.W.M, Section 36. Certificates and permits that were within the search area but clearly not in the Summit Lake basin or were clearly upstream in the Kennedy Creek drainage are not included in the totals given below. Permits issued prior to, but within the same batch of applications being processed as the proposed appropriation, are also not included in the totals below.

- 219 certificates and 39 permits have been issued for Summit Lake, authorizing a total diversion of 4.13 cfs and 95.92 acre-feet per year. All but five of these certificates and permits are for single domestic uses.
- Five downstream certificates have been issued on Kennedy Creek, authorizing a total diversion of 1.10 cfs and an estimated total amount of 222 acre-feet per year. The annual allowed withdrawal is estimated due to three of the rights not reporting maximum allowed annual withdrawals. The allowed withdrawal for two of these rights is based upon an assumed irrigation usage of 2 feet per acre over a total acreage of 110 acres. The third is estimated a 0.5 acre-feet per year for a domestic single use.
- Two downstream certificates have been issued on unnamed streams that may be influenced by surface and/or groundwater flows from Summit Lake. These authorize a total of 0.03 cfs and 2.0 acre-feet per year.
- 93 Water Right Claims are recorded that list the water source as Summit Lake. Another 14 claims are recorded that may have either Summit Lake as a source or other surface water sources downstream of Summit Lake.

The actual consumption of water from Summit Lake is probably considerably less than the amount authorized by water right. Many residences at the lake are vacation/weekend cabins and are used only periodically or seasonally. Consequently, water authorizations based upon year-long occupancy may overestimate the amount of water actually used. Further, the majority of water used by lake residents enters their septic systems, especially for the many authorizations that are restricted to in-house use only. The vast majority of water entering septic systems (approximately 85 to 90 percent) becomes recharge to either Summit Lake or the groundwater system in the bedrock. It might be reasonable to estimate that of the 4.13 cfs/95.92 acre-feet authorized for withdrawal from Summit Lake approximately 85 acre-feet or more is either never taken from the lake or re-enters Summit Lake or the surrounding bedrock via return flow from septic systems. Most of the remaining water would be lost to evapotranspiration. In fact, given the slopes and soil surrounding Summit Lake, the portion of withdrawn water lost to evapotranspiration is probably much less and that portion that reenters the lake and groundwater system is likely even greater. The exact amount lost to evapotranspiration will vary according to the operating efficiency of the septic systems.

Records for ground water certificates, permits, and claims were also researched. Ground water downstream in the Kennedy Creek drainage from Summit Lake is probably hydraulically connected to Kennedy Creek and/or Summit Lake. This is especially true in the region immediately west of Summit Lake. The following ground water right records are on file with the Department of Ecology for rights and claims that may have Summit Lake as a recharge source.

- Five Water Right Certificates have been issued groundwater sources adjacent to or downstream of Summit Lake, authorizing a total production of 157 gallons per minute and 24.0 acre-feet per year.
- 62 Water Right Claims are recorded that are believed to have groundwater sources and are potentially adjacent to or downstream from Summit Lake.

Water Requirements

The water requirement for in-house, single domestic use should not exceed an instantaneous rate of 0.02 cfs and a total of 300 gallons per day, or 0.34 acre-feet per year.

CONCLUSIONS:

The applicant does not have an alternate source of water. Due to small lot sizes and limited groundwater availability along the shores of Summit Lake, private wells are not a viable alternate water source for most properties. Similarly, public water systems are not currently available to residents seeking a new water source. Only one public system serving domestic residences exists at the lake. The applicant cannot hook up to this system.

With a total of 4.13 cfs currently authorized for diversion from Summit Lake, cumulative impacts of numerous single domestic diversions are presently and significantly affecting the quantity of water available for instream uses of Kennedy Creek. Therefore, under the

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provisions of Chapter 173-514 WAC, the proposed appropriation should be for in-house use only and should be relinquished if a public water supply becomes available.

It is less clear if there is a cumulative impact to water quality due to development of the lakeshore. Current water quality in the lake is excellent even with the large number of houses present along the lake. The house presently on the place of use will likely have little to no impact on lake quality as long as the on-site sewage system is properly maintained and quickly repaired should it fail.

Beneficial Use

The requested use of water for continuous single domestic supply is a beneficial use.

Water Availability

Summit Lake contains a significant volume of water and accepts a large amount of runoff each year. Water is available for appropriation from Summit Lake under the provisions of Chapter 173-514 WAC because there is no other water source available other than the lake.

Impairment of Existing Rights

The diversion of 0.02 cfs and 0.34 acre-feet per year will not impair existing rights. The diversion may impact minimum instream flows in Kennedy Creek. However, the proposed appropriation is allowed by exemption under the provisions of Chapter 173-514 WAC. It is important to note that rights established subsequent to the adoption of Chapter 173-514 WAC are junior in priority to the flows established in the WAC and that they may be subject to regulation.

Public Interest

Approval of application S2-29928 to divert water from Summit Lake for continuous single domestic supply will not threaten any of the other public amenities or values associated with the Summit Lake or Kennedy Creek.

RECOMMENDATIONS:

Based upon the information gathered and the conclusions drawn, it is recommended that a permit in the amount of 0.02 cubic feet per second, 0.34 acre-feet per year be authorized for diversion from Summit Lake for continuous single domestic supply.

This permit should be subject to existing rights and the following provisions:

PROVISIONS:

"Use of water authorized under this permit/certificate shall be limited to in-house use only. At such a time that a public water supply becomes available to the place of use of this permit/certificate, the water right shall be relinquished."

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC.

Water use data shall be recorded annually and maintained by the property owner for a minimum of five years, and shall be promptly submitted to Ecology upon request.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, Permit/Certificate/Claim No., source name, annual quantity used including units, maximum rate of diversion including units, monthly meter readings including units, purpose of use, and fish screen status. In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

The Water Resources Act of 1971, Chapter 90.54 RCW specifies certain criteria regarding utilization and management of the waters of the State in the best public interest. Favorable consideration of this application has been based on sufficient waters available, at least during portions of the year. However, it is pointed out to the applicant that this use of water may be subject to regulation at certain times, based on the necessity to maintain water quantities sufficient for preservation of the natural environment.

The permit is issued subject to Washington Department of Fish and Wildlife screening criteria as outlined in a hydraulic project approval. Please contact the Department of Fish and Wildlife, 600 Capital Way North, Olympia, Washington, 98501-1091, Attention: Habitat Management Division, (360) 902-2534, to obtain specified requirements for your project.

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a permit by this department for appropriation of the waters in question does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

The Permittee is advised that notice of Proof of Appropriation of water (under which the final certificate of water right is issued) should not be filed until the permanent distribution system has been constructed and that quantity of water allocated by the permit to the extent water is required, has been put to full beneficial use.

A proof inspection will be conducted prior to final certificate issuance. The certificate will reflect the extent of the project perfected within the limitations of the permit. Aspects will include as appropriate the source, system's instantaneous capacity, beneficial use(s), annual quantity, acreage, place of use, and satisfaction of provisions.

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This authorization shall in no way excuse the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology and those administered by local agencies.

REPORTED BY: Don Dried Date: February 15, 2005
for R+N

The statutory permit fee for this application is \$5.00.

FINDINGS OF FACT AND DECISION

Upon reviewing the above report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find water is available for appropriation and the appropriation as recommended is a beneficial use and will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER a permit be issued under Ground Water Application Number S2-29928, subject to existing rights and indicated provisions, to allow appropriation of public ground water for the amount and uses specified in the foregoing report.

Signed at Olympia, Washington, this 15th day of February, 2005.

Thomas Loranger

Thomas Loranger
Water Resources Section Manager
Southwest Regional Office